



ctg	ttg	ctg	atc	aac	ttt	ttc	atc	gct	gtt	ctg	gga	gtg	ata	tca	ctg	48
Met	Leu	Leu	Ile	Asn	Phe	Phe	Ile	Ala	Val	Leu	Gly	Val	Ile	Ser	Leu	
1				5					10					15		
tct	cct	att	gtg	gtt	gct	cgt	tat	att	ctt	cga	cga	gat	tgc	act	aca	96
Ser	Pro	Ile	Val	Val	Ala	Arg	Tyr	Ile	Leu	Arg	Arg	Asp	Cys	Thr	Thr	
			20					25					30			
gtt	acg	gtc	ttg	tcc	tcc	cct	gag	tct	gtg	acg	agt	tcg	aac	cat	gtt	144
Val	Thr	Val	Leu	Ser	Ser	Pro	Glu	Ser	Val	Thr	Ser	Ser	Asn	His	Val	
			35				40					45				
cag	cta	gcc	agt	cat	gag	atg	tgc	gac	agt	acc	ttg	tca	gcg	tcc	ctt	192
Gln	Leu	Ala	Ser	His	Glu	Met	Cys	Asp	Ser	Thr	Leu	Ser	Ala	Ser	Leu	
	50					55					60					
tat	atc	tac	aat	gat	gat	tat	gat	aag	att	gtg	aca	ctt	tat	tat	ctt	240
Tyr	Ile	Tyr	Asn	Asp	Asp	Tyr	Asp	Lys	Ile	Val	Thr	Leu	Tyr	Tyr	Leu	
65					70					75					80	
aca	tcg	tcg	ggc	aca	act	ggg	tcc	gta	aca	gcg	tct	tat	tct	tct	agt	288
Thr	Ser	Ser	Gly	Thr	Thr	Gly	Ser	Val	Thr	Ala	Ser	Tyr	Ser	Ser	Ser	
				85					90					95		
ttg	agt	aac	aac	tgg	gaa	ttg	tgg	tct	ctc	tcg	gct	ccg	gct	gca	gat	336
Leu	Ser	Asn	Asn	Trp	Glu	Leu	Trp	Ser	Leu	Ser	Ala	Pro	Ala	Ala	Asp	
			100					105					110			
gct	gtc	gag	atc	act	gga	gct	agt	tat	gta	gac	agc	gat	gca	tct	gcg	384
Ala	Val	Glu	Ile	Thr	Gly	Ala	Ser	Tyr	Val	Asp	Ser	Asp	Ala	Ser	Ala	
		115					120					125				
aca	tac	gcc	acg	tct	ttt	gat	ata	cct	ctt	act	acc	acg	aca	acg	tcg	432
Thr	Tyr	Ala	Thr	Ser	Phe	Asp	Ile	Pro	Leu	Thr	Thr	Thr	Thr	Thr	Ser	
	130					135					140					
tcg	tct	tct	gct	agt	gcg	act	tca	aca	tct	agt	cta	acc	aca	aca	tct	480
Ser	Ser	Ser	Ala	Ser	Ala	Thr	Ser	Thr	Ser	Ser	Leu	Thr	Thr	Thr	Ser	
145					150					155					160	
agt	gtt	tcc	att	tcg	gtg	tcc	gtc	cct	aca	gga	aca	gct	gca	aat	tgg	528
Ser	Val	Ser	Ile	Ser	Val	Ser	Val	Pro	Thr	Gly	Thr	Ala	Ala	Asn	Trp	
				165					170					175		
cga	ggt	agg	gct	atc	tat	cag	atc	gtg	act	gat	aga	ttt	gca	cgc	act	576
Arg	Gly	Arg	Ala	Ile	Tyr	Gln	Ile	Val	Thr	Asp	Arg	Phe	Ala	Arg	Thr	
			180					185					190			

FIG. 1a

gac	ggc	tcc	acc	aca	tat	tta	tgc	gat	gtt	acc	gat	agg	gtc	tat	tgc	624
Asp	Gly	Ser	Thr	Thr	Tyr	Leu	Cys	Asp	Val	Thr	Asp	Arg	Val	Tyr	Cys	
	195						200					205				
gga	ggg	tct	tat	cag	ggg	att	atc	aat	atg	ctg	gat	tac	atc	caa	ggc	672
Gly	Gly	Ser	Tyr	Gln	Gly	Ile	Ile	Asn	Met	Leu	Asp	Tyr	Ile	Gln	Gly	
	210					215					220					
atg	ggc	ttt	act	gct	att	tgg	att	tct	cct	ata	gtg	gaa	aat	att	ccc	720
Met	Gly	Phe	Thr	Ala	Ile	Trp	Ile	Ser	Pro	Ile	Val	Glu	Asn	Ile	Pro	
225					230					235					240	
gat	gac	acc	gga	tac	ggg	tac	gca	tat	cat	ggg	tat	tgg	atg	aaa	gat	768
Asp	Asp	Thr	Gly	Tyr	Gly	Tyr	Ala	Tyr	His	Gly	Tyr	Trp	Met	Lys	Asp	
			245						250					255		
atc	ttc	gcc	ctg	aat	aca	aat	ttt	ggg	act	gca	gac	gat	ttg	ata	gcg	816
Ile	Phe	Ala	Leu	Asn	Thr	Asn	Phe	Gly	Thr	Ala	Asp	Asp	Leu	Ile	Ala	
			260					265					270			
ttg	gct	acg	gaa	ttg	cat	aat	cgc	ggc	atg	tac	ttg	atg	gtt	gat	att	864
Leu	Ala	Thr	Glu	Leu	His	Asn	Arg	Gly	Met	Tyr	Leu	Met	Val	Asp	<u>Ile</u>	
		275					280					285				
gtt	gtc	aat	cac	ttt	gct	ttc	tca	gga	agt	cat	gcc	gac	gtg	gac	tac	912
<u>Val</u>	<u>Val</u>	<u>Asn</u>	<u>His</u>	<u>Phe</u>	<u>Ala</u>	<u>Phe</u>	<u>Ser</u>	<u>Gly</u>	<u>Ser</u>	<u>His</u>	<u>Ala</u>	<u>Asp</u>	<u>Val</u>	<u>Asp</u>	<u>Tyr</u>	
290						295					300					
tct	gaa	tat	ttc	ccg	tat	tcg	tcc	cag	gat	tat	ttt	cat	tca	ttt	tgc	960
Ser	Glu	Tyr	Phe	Pro	Tyr	Ser	Ser	Gln	Asp	Tyr	Phe	His	Ser	Phe	Cys	
305					310					315					320	
tgg	att	aca	gat	tac	tcg	aat	cag	aca	aac	gtt	gag	cag	tgc	tgg	ctt	1008
Trp	Ile	Thr	Asp	Tyr	Ser	Asn	Gln	Thr	Asn	Val	Glu	Gln	Cys	Trp	Leu	
				325					330					335		
ggc	gac	gat	act	gtt	cct	ctc	gtg	gac	gtc	aat	acc	caa	ctt	gac	acc	1056
Gly	Asp	Asp	Thr	Val	Pro	Leu	Val	Asp	Val	Asn	Thr	Gln	Leu	Asp	Thr	
			340					345					350			
gtg	aaa	agt	gaa	tat	caa	tcc	tgg	gtt	caa	gaa	ctt	ata	gct	aat	tac	1104
Val	Lys	Ser	Glu	Tyr	Gln	Ser	Trp	Val	Gln	Glu	Leu	Ile	Ala	Asn	Tyr	
		355					360					365				
tct	att	gac	ggc	cta	aga	att	gac	acc	gtc	aag	cac	gtg	cag	atg	gat	1152
Ser	Ile	Asp	Gly	<u>Leu</u>	<u>Arg</u>	<u>Ile</u>	<u>Asp</u>	<u>Thr</u>	<u>Val</u>	<u>Lys</u>	<u>His</u>	<u>Val</u>	<u>Gln</u>	<u>Met</u>	<u>Asp</u>	
	370					375					380					

FIG. 1b

ttt	tgg	gca	cca	ttt	caa	gag	gct	gca	ggg	att	tac	gcc	gtt	ggt	gaa	1200
Phe	Trp	Ala	Pro	Phe	Gln	Glu	Ala	Ala	Gly	Ile	Tyr	Ala	Val	Gly	<u>Glu</u>	
385					390					395					400	
gta	ttc	gac	ggt	gat	cca	tcc	tac	aca	tgt	cca	tat	cag	gaa	aat	ctt	1248
Val	<u>Phe</u>	<u>Asp</u>	Gly	Asp	Pro	Ser	Tyr	Thr	Cys	Pro	Tyr	Gln	Glu	Asn	Leu	
				405					410					415		
gac	ggt	gtc	ttg	aat	tat	cct	gtt	tat	tat	cct	gtc	gtc	tct	gcg	ttt	1296
Asp	Gly	Val	Leu	Asn	Tyr	Pro	Val	Tyr	Tyr	Pro	Val	Val	Ser	Ala	Phe	
			420					425					430			
gag	agt	gtt	agt	ggg	tcg	gtc	tcc	tcg	tta	gtc	gat	atg	att	gat	acg	1344
Glu	Ser	Val	Ser	Gly	Ser	Val	Ser	Ser	Leu	Val	Asp	Met	Ile	Asp	Thr	
		435					440					445				
ctc	aag	tct	gaa	tgc	acc	gac	act	act	ctc	cta	ggc	tcc	ttt	cta	gag	1392
Leu	Lys	Ser	Glu	Cys	Thr	Asp	Thr	Thr	Leu	Leu	Gly	Ser	Phe	<u>Leu</u>	<u>Glu</u>	
	450					455					460					
aat	caa	gat	aat	ccg	cga	ttc	cct	agc	tac	act	tct	gat	gag	tct	tta	1440
<u>Asn</u>	<u>Gln</u>	<u>Asp</u>	Asn	Pro	Arg	Phe	Pro	Ser	Tyr	Thr	Ser	Asp	Glu	Ser	Leu	
465					470					475					480	
att	aaa	aat	gcg	atc	gct	ttc	act	atg	ctc	tca	gac	ggc	att	ccc	ata	1488
Ile	Lys	Asn	Ala	Ile	Ala	Phe	Thr	Met	Leu	Ser	Asp	Gly	Ile	Pro	Ile	
				485					490					495		
att	tat	tac	ggt	cag	gag	caa	ggc	ctc	aat	ggt	gga	aac	gat	ccc	tat	1536
Ile	Tyr	Tyr	Gly	Gln	Glu	Gln	Gly	Leu	Asn	Gly	Gly	Asn	Asp	Pro	Tyr	
			500					505					510			
aat	cga	gag	gcg	ctt	tgg	ctt	acg	ggc	tac	tcc	aca	acg	tcg	acg	ttc	1584
Asn	Arg	Glu	Ala	Leu	Trp	Leu	Thr	Gly	Tyr	Ser	Thr	Thr	Ser	Thr	Phe	
		515					520					525				
tac	aaa	tac	att	gcg	tcg	ttg	aat	cag	att	aga	aat	cag	gct	ata	tac	1632
Tyr	Lys	Tyr	Ile	Ala	Ser	Leu	Asn	Gln	Ile	Arg	Asn	Gln	Ala	Ile	Tyr	
	530					535					540					
aaa	gat	gat	act	tat	ctc	aca	tat	cag	aac	tgg	gtt	att	tat	tcg	gat	1680
Lys	Asp	Asp	Thr	Tyr	Leu	Thr	Tyr	Gln	Asn	Trp	Val	Ile	Tyr	Ser	Asp	
545					550					555					560	
tcc	acg	aca	ata	gca	atg	cgg	aaa	ggt	ttt	aca	ggg	aac	caa	ata	att	1728
Ser	Thr	Thr	Ile	Ala	Met	Arg	Lys	Gly	Phe	Thr	Gly	Asn	Gln	Ile	Ile	
				565					570					575		

FIG. 1c

acg	gtt	ctg	tca	aat	ctt	ggg	acc	agt	ggc	agt	tcg	tac	act	ttg	acg	1776
Thr	Val	Leu	Ser	Asn	Leu	Gly	Thr	Ser	Gly	Ser	Ser	Tyr	Thr	Leu	Thr	
		580						585					590			
ctt	tcg	aat	acg	gga	tat	acc	gca	tct	agc	gtt	gta	tat	gag	atc	ttg	1824
Leu	Ser	Asn	Thr	Gly	Tyr	Thr	Ala	Ser	Ser	Val	Val	Tyr	Glu	Ile	Leu	
		595					600					605				
aca	tgc	aca	gct	gtg	act	gtg	gat	tcg	tct	ggg	aat	ttg	gca	gtg	ccg	1872
Thr	Cys	Thr	Ala	Val	Thr	Val	Asp	Ser	Ser	Gly	Asn	Leu	Ala	Val	Pro	
	610					615					620					
atg	tcc	agt	ggc	cta	cca	aaa	gtc	ttt	tat	cag	gaa	tcg	caa	ctg	gtt	1920
Met	Ser	Ser	Gly	Leu	Pro	Lys	Val	Phe	Tyr	Gln	Glu	Ser	Gln	Leu	Val	
625					630					635					640	
ggc	tct	gga	atc	tgc	tcc	atg	tagag									1946
Gly	Ser	Gly	Ile	Cys	Ser	Met										
				645												

FIG. 1d